

Amendments to the Claims

This listing of claims replaces all prior versions and listings of claims in the application.

Listing of Claims

1. (Currently Amended) A semiconductor device comprising:

a load;

~~a transistor which supplies a first current to a load in a driving period; and electrically connected to the load; and~~

~~a circuit for making a potential of a gate terminal of the transistor at a first potential by flowing a second current to the transistor in a precharging period, and for making the potential of the gate terminal of the transistor at a second potential by flowing the first current to the transistor in a programming period. electrically connected to a gate terminal of the transistor,~~

~~wherein the circuit feeds either a first current to the transistor so that the gate terminal of the transistor has a first potential or a second current to the transistor so that the gate terminal of the transistor has a second potential, and~~

wherein the transistor feeds the second current to the load.

2. (Currently Amended) A semiconductor device comprising:

a display element;

~~a transistor which supplies a first current to a display element in a driving period; and electrically connected to the display element; and~~

~~a circuit for making a potential of a gate terminal of the transistor at a first potential by flowing a second current to the transistor in a precharging period, and for making the potential of the gate terminal of the transistor at a second potential by flowing the first current to the transistor in a programming period. electrically connected to a gate terminal of the transistor,~~

~~wherein the circuit feeds either a first current to the transistor so that the gate terminal of the transistor has a first potential or a second current to the transistor so that the gate terminal of the transistor has a second potential, and~~

wherein the transistor feeds the second current to the display element.

3. (Canceled).

4. (Currently Amended) A semiconductor device comprising:

a load;

a transistor which supplies a first current to a load in a driving period; and electrically connected to the load; and

~~a circuit for making a potential of a gate terminal of the transistor at a first potential by flowing a second current to the transistor in a first precharging period, for making the potential of the gate terminal of the transistor at a second potential by flowing a third current to the transistor in a second precharging period, and for making the potential of the gate terminal of the transistor at a third potential by flowing the first current to the transistor in a programming period. electrically connected to a gate terminal of the transistor,~~

wherein the circuit feeds either a first current to the transistor so that the gate terminal of the transistor has a first potential or a second current to the transistor so that the gate terminal of the transistor has a second potential, and

wherein the transistor feeds a third current to the load.

5. (Original) The semiconductor device according to claim 4, wherein the load is a display element.

6. (Canceled).

7. (Original) A semiconductor device comprising:

a load connected in series to a first switch;

a constant current source connected in series to a second switch;

a first power source line electrically connected to the load;

a first transistor electrically connected to the load and the constant current source;

a second transistor electrically connected to the first transistor;

a second power source line electrically connected to the second transistor; and

a third power source line electrically connected to gate electrodes of the first and the second transistors,

wherein the gate electrode of the first transistor is electrically connected to any one of a source electrode of the first transistor and a drain electrode of the first transistor via a third switch; and

wherein a source electrode of the second transistor are electrically connected a drain electrode of the second transistor via a fourth switch.

8. (Original) The semiconductor device according to claim 7, wherein the load is a display element.

9. (Original) The semiconductor device according to claim 7, wherein the load is a signal line.

10. (Original) The semiconductor device according to claim 7, comprising:
a capacitor electrically connected to the gate electrodes of the first and the second transistors.

11. (Original) The semiconductor device according to claim 7, further comprising a second constant current source electrically connected to the first transistor and connected in series to a fifth switch.

12. (Original) The semiconductor device according to claim 7, wherein a potential of the first power source line is higher than potentials of the second and the third power source lines.

13. (Original) The semiconductor device according to claim 7, wherein a potential of the first power source line is lower than potentials of the second and the third power source lines.

14. (Original) The semiconductor device according to claim 7, wherein widths of channel regions of the first and the second transistors are equal to each other.

15. (Original) The semiconductor device according to claim 7, wherein a length of a channel region of the first transistor is longer than a length of a channel region of the second transistor.

16. (Original) The semiconductor device according to claim 7, wherein the first to fourth switches include any one of a transistor, a diode, a CMOS circuit and a logic circuit.

17. (Withdrawn) A semiconductor device comprising:
a load connected in series to a first switch;
a constant current source connected in series to a second switch;
a first power source line electrically connected to the load;
a first transistor electrically connected to the load and the constant current source;
a second transistor electrically connected to the first transistor;
a second transistor electrically connected to the first transistor;
a second power source line electrically connected to the second transistor; and
a third power source line electrically connected to gate electrodes of the first and the second transistors via a fourth switch,

wherein a gate electrode of the first transistor is electrically connected to any one of a source electrode of the first transistor and a drain electrode of the first transistor via a third switch, and

wherein a gate electrode of the second transistor is electrically connected to the gate electrode of the first transistor via a fifth switch.

18. (Withdrawn) The semiconductor device according to claim 17, wherein the load is a display element.

19. (Withdrawn) The semiconductor device according to claim 17, wherein the load is a signal line.

20. (Withdrawn) The semiconductor device according to claim 17, further comprising a capacitor electrically connected to the gate electrode of the first transistor.

21. (Withdrawn) The semiconductor device according to claim 17, further comprising a second constant current source electrically connected to the first transistor and connected in series to a sixth switch.

22. (Withdrawn) The semiconductor device according to claim 17, wherein a potential of the first power source line is higher than potentials of the second and the third power source lines.

23. (Withdrawn) The semiconductor device according to claim 17, wherein a potential of the first power source line is lower than potentials of the second and the third power source lines.

24. (Withdrawn) The semiconductor device according to claim 17, wherein widths of channel regions of the first and the second transistors are equal to each other.

25. (Withdrawn) The semiconductor device according to claim 17, wherein a length of a channel region of the first transistor is longer than a length of a channel region of the second transistor

26. (Withdrawn) The semiconductor device according to claim 17, wherein the first to fifth switches include any one of a transistor, a diode, a CMOS circuit and a logic circuit.

27. (Withdrawn) A semiconductor device comprising:
a load connected in series to a first switch;
a constant current source connected in series to a second switch;
a first power source line electrically connected to the load;
a first transistor electrically connected to the load and the constant current source and connected to a third switch in series;

a second transistor electrically connected to the load and the constant current source and connected to a fourth switch in series;

a second power source line electrically connected to the first transistor;

a third power source line electrically connected to the second transistor; and

a fourth power source line electrically connected to the load and the constant current source via a fifth switch and electrically connected to gate electrodes of the first and the second transistors.

28. (Withdrawn) The semiconductor device according to claim 27, wherein the load is a display element.

29. (Withdrawn) The semiconductor device according to claim 27, wherein the load is a signal line.

30. (Withdrawn) The semiconductor device according to claim 27, comprising a capacitor electrically connected to gate electrodes of the first and the second transistors.

31. (Withdrawn) The semiconductor device according to claim 27, comprising a second constant current source electrically connected to the first and the second transistors and connected in series to a sixth switch.

32. (Withdrawn) The semiconductor device according to claim 27, wherein the potential of the first power source line is higher than potentials of the second, the third, and the fourth power source lines.

33. (Withdrawn) The semiconductor device according to claim 27, wherein the potential of the first power source line is lower than potentials of the second, the third, and the fourth power source lines.

34. (Withdrawn) The semiconductor device according to claim 27,

wherein widths of channel regions of the first and the second transistors are equal to each other.

35. (Withdrawn) The semiconductor device according to claim 27, wherein a length of a channel region of the first transistor is longer than a length of a channel region of the second transistor.

36. (Withdrawn) The semiconductor device according to claim 27, wherein the first to fifth switches include any one of a transistor, a diode, a CMOS circuit and a logic circuit.

37. (Withdrawn) A semiconductor device comprising:
a load connected in series to a first switch;
a constant current source connected in series to a second switch;
a first power source line electrically connected to the load;
a first transistor electrically connected to the load and the constant current source and connected to a third switch in series;
a second transistor electrically connected to the load and the constant current source and connected to a fourth switch in series;
a second power source line electrically connected to the first transistor;
a third power source line electrically connected to the second transistor; and
a fourth power source line electrically connected to the load and the constant current source via a fifth switch and electrically connected to gate electrodes of the first and the second transistors,
wherein a gate electrode is electrically connected any one of a source electrode of the second transistor and a drain electrode of the second transistor.

38. (Withdrawn) The semiconductor device according to claim 37, wherein the load is a display element.

39. (Withdrawn) The semiconductor device according to claim 37, wherein the load is a signal line.

40. (Withdrawn) The semiconductor device according to claim 37, further comprising a capacitor electrically connected to a gate electrode of the first transistor.

41. (Withdrawn) The semiconductor device according to claim 37, further comprising a second constant current source electrically connected to the first and the second transistors and connected in series to a sixth switch.

42. (Withdrawn) The semiconductor device according to claim 37, wherein a potential of the first power source line is higher than potentials of the second, the third, and the fourth power source lines.

43. (Withdrawn) The semiconductor device according to claim 37, wherein a potential of the first power source line is lower than potentials of the second, the third, and the fourth power source lines.

44. (Withdrawn) The semiconductor device according to claim 37, wherein widths of channel regions of the first and the second transistors are equal to each other.

45. (Withdrawn) The semiconductor device according to claim 37, wherein a length of a channel region of the first transistor is shorter than a channel region of the second transistor.

46. (Withdrawn) The semiconductor device according to claim 37, wherein the first to fifth switches include any one of a transistor, a diode, a CMOS circuit and a logic circuit.

47. (Currently Amended) A driving method of a semiconductor device, comprising the steps of:

feeding a first current to a transistor so that a gate terminal of the transistor has a first potential,

feeding a second current to a transistor so that the gate terminal of the transistor has a second potential, and

~~generating at a gate terminal of a transistor a first voltage required for the transistor to flow a first current, by supplying the first current to the transistor;~~

~~generating at a the gate terminal of the transistor a second voltage required for the transistor to flow a second current, by supplying the second current to the transistor after generating the first voltage; and~~

~~supplying feeding the second current to a load through the transistor while the gate terminal of the transistor is kept at the second potential, after generating the second voltage.~~

48. (Original) The driving method of a semiconductor device according to claim 47, wherein the first current is larger than the second current.

49. (Currently Amended) A driving method of a semiconductor device comprising the steps of:

feeding a first current to a transistor so that a gate terminal of the transistor has a first potential,

feeding a second current to a transistor so that the gate terminal of the transistor has a second potential, and

~~generating at a gate terminal of a transistor a first voltage required for the transistor to flow a first current, by supplying the first current to the transistor;~~

~~generating at a the gate terminal of the transistor a second voltage required for the transistor to flow a second current, by supplying the second current to the transistor after generating the first voltage;~~

~~generating at a the gate terminal of the transistor a third voltage required for the transistor to flow a third current, by supplying the third current to the transistor after generating the second voltage, and~~

supplying feeding [[the]] a third current to a load through the transistor while the gate terminal of the transistor is kept at the second potential. after generating the third voltage.

50. (Original) The driving method of a semiconductor device according to claim 49, wherein the first and the second currents are larger than the third current.

51. (Currently Amended) A semiconductor device comprising:

a load;

a transistor electrically connected to the load via a first switch;

a first current source; and

a second current source; and

a capacitor electrically connected to a gate terminal of the transistor,

wherein any one of a source terminal and a drain terminal of the transistor is connected to the first current source and the second current source via a second switch,

wherein the second current source feeds a first current to the transistor so that the gate terminal of the transistor has a first potential, and

wherein the first current source feeds a second current to the transistor so that the gate terminal of the transistor has a second potential, and

wherein the transistor feeds the second current to the load,

~~wherein a circuit operationally connects any one of a source region and a drain region of the transistor and any one of the first current source and the second current source, and~~

~~wherein the circuit makes a potential of a gate electrode of the transistor at a predetermined potential by electrically connecting the second current source and the any one of the source region and the drain region of the transistor.~~

52. (Previously Presented) The semiconductor device according to claim 51, wherein the load is a display element.

53. (Canceled).